HABITUAL CONSTIPATION

AND ITS

TREATMENT

WITH

ELECTRICITY, MASSAGE AND WATER.

BY

GEORG HÜNERFAUTH, M. D.,

615.8

SL

The Royal College of Physicians
of London.

From the Library of

Sir Andrew Clark, Bart.

Presented by Lady Clark.

147 F 23

SL/25-2-b-3 615-8



HABITUAL

CONSTIPATION

AND ITS

TREATMENT

WITH

ELECTRICITY, MASSAGE, AND WATER.

BY

GEORG HÜNERFAUTH, M. D.,

Physician for Electrotherapeutics, Massage, and Medical gymnastics, Director of the Water-Establishment at Bad Homburg.

M. of the Br. Med. Ass.

WIESBADEN.

J. F. BERGMANN, PUBLISHER.

LONDON: TRÜBNER & COMP.,

57, 59 LUDGATE HILL, E. C.

1886.

ALL RIGHTS RESERVED.

615.8
23714

TO THE MEMORY

OF

THE NEVER FORGOTTEN

PROFESSOR Dr. N. FRIEDREICH

DEDICATED

BY THE

AUTHOR.



Digitized by the Internet Archive
in 2015

https://archive.org/details/b2398319x

PREFACE.

The following communications on the **external mode of treatment** of habitual or chronic constipation are the result of various observations made by me during my practice at this watering place. Before expounding the several methods of treatment I shall treat shortly of the causes and the different forms of the disease; showing how in an exceedingly great number of cases a purely medicinal treatment, even though joined with the most careful diet, will prove ineffectual, and how, on the contrary, the continual use of internal remedies, administered in ever increasing degrees of potency, necessarily tends to aggravate, and at length to render incurable, the

state of many patients labouring under constipation.

I am particularly anxious to call attention to the **combined form** of treatment. Hydropathic as well as electric and massage treatment have, it is true, each separately led to good results, and it is important enough, surely, to be able to select from among several cures the one specifically suited to the individual case. However most cases of that obstinate disease are such as to make it advisable to begin a combined method of treatment at once.

As regards the **massage of the abdomen** in particular, I may claim the slight merit of having on many occasions directed the attention of practitioners to its eminent value. The **usefulness of abdomen massage** is especially manifest in cases of atony of the muscular coats of the bowels, which is the primary and original cause of chronic constipation. This must be the more insisted on, as the much more frequent application of massage of the

joints causes many physicians to overlook the advantages of abdomen massage: there are even a good many physicians wholly unacquainted with it.

By the following treatise I hope to convince all of the speedy and permanent effects of abdomen massage.

In severe cases of habitual constipation, especially in such as are accompanied by nervous and constitutional disturbances, two other important agents are to be mentioned as powerful auxiliaries towards restoring health: **the proper and regular use of our waters and the excellent climatic conditions of our place.**

I can safely affirm, that the use of our springs both accelerates the results and renders the effects of the cure more durable in cases of serious disturbances of the digestion.

Bodily exercise, which, as will be seen from the following, I consider as a very necessary supplement to the massage and hydropathic treatment, is made a source of real pleasure

to the patient by the wonderful air of the Taunus Mountains, which for its inspiriting and invigorating influence is not surpassed by that of any other German watering place. To the **"air cure"** I am not a little indebted for the disappearance of a great many secondary phenomena of nervousness.

I hope I may soon be able to edit another work proper to arouse the interest of physicians and patients alike, entitled "Rheumatism and Gout, and their treatment by means of Electricity, Massage and Water".

Bad Homburg, December 1884.

Hünerfauth, M. D.

Index.

page

Chapter I: Peristaltic Motions; Causes of Constipation 11

Chapter II: Symptoms 22

Chapter III: Therapeutics 25

1. Electricity 26

2. Massage 33

3. Hydropathic Treatment 45

Chapter IV: Conclusion 51

I. Peristaltic motions. Causes of Constipation.

People in good health have alvine evacuation as a rule once or twice within 24 hours. Deviations from the number as well as the quantity of stools occur frequently without giving us reason to suspect a case of disease; some persons, though in perfect health, need alvine evacuation only once every 2, 3, or 4 days.

In speaking of habitual constipation, I exclude those cases which occur only temporarily in various diseases, or which are only a consequence of stenoses or occlusions of the intestines; meaning rather that form of constipation which appears as an independent chronic disorder, with symptoms depending again on constipation itself. *The principal cause is to be sought for in the atony of the muscular coat of the intestines, in the inaction or excessive reduction of the intestinal peristaltic motions, with which very frequently a debilitation of the abdominal pressure is found combined.* Peristaltic motions of the intestines are generally understood to be certain vermicular motions by which the contents of the intestines are forced onward; these motions

generally take a downward course, and only in case of obstruction of the passage of the intestines, they take an opposite course towards the stomach, causing even vomiting of excrements. The peristaltic motions of the small intestine are somewhat brisker than that of the large intestine. If the abdominal walls are thin, the peristaltic motions can be felt, and sometimes even seen. *The impulse* to the peristaltic motions is given *from two points:* 1) from the nervous cells situated in the longitudinal and circular muscular layer of the intestinal tube (Plexus myentericus) and 2) from the Nervus vagus, which operates in two ways: by stimulating directly the ganglia of the small intestine, and by producing strong contractions of the stomach, which are propagated on the intestine. Another nerve, the Splanchnicus, counteracts the Nervus vagus: by its irritation the peristaltic motions are arrested, and at length brought to a stand-still. *Nothnagel (Beiträge zur Physiologie u. Pathologie des Darmes, Berlin, Hirschwald, 1884)* supplementing a work by *Braam-Houckgeest* on peristaltic motions *(Pflüger's Archiv für Physiologie, IV. Bd.)*, has made some interesting experiments about motions of the intestines, which are equally important for pathology and therapeutics. I refrain from giving detailed accounts of them, hoping a few remarks will suffice. "The motions which are seen to take place in the small intestine, may be ranged in two sets: the one, actually advancing, push the contents farther downwards; besides these one may often observe very slight pendulous motions arising from con-

tractions of the longitudinal fibres, and feeble contractions of the circular layer, by which the contents of the intestines are not moved on. If in the latter case the lower end of the column of contents is marked, the fact of its standstill may be exactly established, even though those motions had lasted for 5, 10, 15 minutes. Through them most probably a closer mixture of the contents with the digestive juices is obtained, and besides, always fresh portions of the contents are brought into contact with the surface of the mucous membrane, to be resorbed here (page 4). On page 5 *Nothnagel* further adds: "I have been able to convince myself directly, that the peristaltic wave originates in the duodenum, through the entrance of the digestive juices, chiefly the bile." Experiments have led Nothnagel to the conclusion, that the peristaltic motions of the intestines, contrary to the assertions of *Engelmann and S. Mayer*, "are not to be ascribed to a process of irritation merely passing on from one muscular cell to another, without the interference of nervous influences."

"We may, I think, safely infer that also in a normal state nervous influences concur in producing peristaltic motions" (page 10). After these statements concerning peristaltic motions, I may add a few words on the physiological process by which the mechanism of the evacuation of the rectum is to be explained. *Erb* says in his "Handbuch der Rückenmarkskrankheiten" (2. edition 1878, page 65): "The contents of the intestines having entered the rectum produce by reflex the peristaltic motion of

the rectum, the centre of this reflex being in the lumbar part of the spinal cord. The pressure of the contents causes, by way of reflex probably, the tonus of the sphincter, which presents the first impediment to the evacuation. At the same time a sensation of the approaching evacuation is communicated to the mind by means of the sensible nerves; and now, through the influence of the will the contraction of the sphincter may be strengthened and the evacuation for a short time be prevented. If the reflex contraction grows stronger, or if the sphincter is voluntarily relaxed, the evacuation proceeds. It is assisted by the abdominal pressure, which is either set to work by voluntary action, or, in case of stronger irritation of the mucous membrane of the rectum (Tenesmus), brought about by direct reflex impulse. The passing of the excrements through the anus causes those rhythmical reflex contractions of the sphincter, which are described by *Goltz (Pflüger's Archiv VIII. 1873),* the centre of the reflex being again to be sought for in the lumbar part of the spinal cord. These contractions afterwards again shut up the rectum."

In a similar manner the evacuation of the bladder is effected; interesting on this subject is the respective chapter, page 134, in *Byrom Bramwell's* treatise of the diseases of the spinal cord, 2nd edition (translated by *Dr. Nathan Weiss,* 2nd edition, augmented by *Dr. Max Weiss, Vienna*), to which two illustrative schematical drawings are added.

After this little disgression I return to the atony

of the muscular coat of the intestine. Often *one cause* is sufficient to bring it about, though in fact as a rule several causes cooperate, without its being possible to discover one or the other as particularly favouring.

Frequent indulgence in indigestible food, increased discharge of water, various remedies, sparing supply of digestive juices, chiefly of the bile, which is well known to be a most powerful stimulant of peristaltic motions, disturbances of innervation in case of spinal diseases, as well as in nervous-mental affections (melancholy, hypochondria, and hysteria), want of bodily exercise, diseases of the muscular coat of the intestine, and lastly, chronic intestinal catarrh, are the principal causes of habitual constipation.

The quantity and quality of the food which we take exercises a certain stimulus on the mucous membrane of the intestine, making the digestion proceed more rapidly, the muscular coat being at the same time excited to peristaltic motions by nervous stimulations. A certain variety in the articles of food is necessary; besides they must be easily digestible, because otherwise they would fill up the intestine as a compact mass and would be difficult to remove. Nor must the food be too dry, certain quantities of liquids facilitating the digestion and the removal in the intestines. I will mention here, that very often obstinate constipations are formed in consequence of severe losses of water through the skin, the lungs or the kidneys, as is especially noticeable in sweating cures, acute rheumatism, phthisis and diabetes.

Amongst *the remedies* decidedly favouring constipation. two classes are to be mentioned: the one directly paralyse the motility of the intestine (opium, morphine), the others reduce the secretion of the mucous membrane of the intestine and adstringe the blood vessels and the mucous membrane itself (tannic acid, albumen, vegetable adstringents, lead, bismuthum, nitrate of silver).

Sparing supply of bile in the intestine will also abate the peristaltic motions. Patients with icterus, in which the supply of bile is checked, always suffer from constipation. In animals with fistula of the gall, whose bile accordingly is turned off artificially to the outside, a reduction resulting in perfect stoppage of intestinal motions can be observed. That element of the bile which works on the peristaltic motions, seems to be gallic acid, because gallic acid salts, taken internally, produce diarrhoea and vomiting. Also the quantity of bile normally passing into the intestine is pretty considerable; physiological experiments have yielded $^1/_2$ ounce of bile for 35 ounces of human body pr. diem, so that a sensible diminution of such masses of fluid cannot but seriously affect the peristaltic motions of the intestines.

Even more *remote causes* for a trouble of the peristaltic motions may be discovered. *Disorders of the brain or of the spinal cord* are not seldom followed by severe constipation; especially disorders of the spine are frequently associated with constipation. Mental affections, as hypochondria, melancholy, and hysteria, are nearly always accompanied by constipation. Hypochondria is hardly

imaginable without constipation, or generally, without serious abdominal disturbances. Whether hypochondria is to be considered as a primary affection with constipation as a secondary phenomenon, or vice versâ, has been a subject of controversy. *Wunderlich (Handbuch der Pathologie u. Therapie vol. IV. pt. I. p. 217)* calls hypochondria "a form of psychical irritation without a necessary process of progression and retrogression". *Romberg (Nervenkrankheiten vol. I. p. 214)* defines it as a "mental disorder, through which the patient fancies himself to be afflicted with an abnormal bodily organisation"; he is "far from denying that disorders of the digestive organs may be remote causes of hypochondria, though often enough they are only hypothetical; but those disorders themselves are not hypochondria". Surely one may be justified, theoretically, in assuming both types, but in the majority of cases we shall have to consider hypochondria as being the result of the abnormal action of the abdominal organs.

Here I must mention another affection, which too is a very frequent concomitant of constipation: general nervousness, or, *neurasthenia*, (cerebralis et spinalis), a very widely spread disease of modern times. Here constipation and diarrhœa very often change about and appear in turns, according, so it would seem, as the person suffering from neurasthenia is in a state of excitability or depression. *Trousseau* in his "Clinique médicale" describes a nervous diarrhœa, caused, without the coexistence of intestinal catarrh, solely through fear and terror. The intestinal

peristaltic motions are powerfully stimulated under nervous influences. *Borel (Le nervosisme, Paris 1873)* says: "Le ventre est le siège de coliques fréquentes, de borborygmes, de ballonement gazeux, de constipation, alternant avec la diarrhée, tandis que dans le nervosisme aigu s'observe généralement une constipation opiniâtre."

Beard (Die Nervenschwäche etc., translated by Neisser, Leipzig 1883) says similarly, that patients suffering from Neurasthenia "frequently complain of flatulency and unpleasant noises in the bowels, also of nausea and diarrhœa."

Want of bodily exercise is another cause of constipation. According to *Leichtenstern (in Ziemssen's Handbuch der spec. Pathologie u. Therapie VII. Bd. II. Hälfte, S. 501)* it seems "that the effect produced by the accelerated respiration and by the increased activity of the diaphragm and the abdominal muscles, is similar to that of massage of the abdomen, which procedure was already known in antiquity as a means for accelerating evacuation. Possibly also a certain influence is owing to the change worked by bodily exercise in the distribution of the blood, as any alteration of the quantity of blood contained in the intestines seems to stimulate the peristaltic motions" (Schiff, Donders). A sedentary life, which is generally combined with want of pure and oxygenous air, will prove highly injurious: the posture of the body being generally incorrect, the digestive organs are compressed to a minimum inside the abdominal cavity; the circulation is suspended, and consequently a host of troubles and annoyances come forth, of which I shall speak

further on. The industrious recluse, the scholar as well as the conscientious official and merchant, whilst brooding over his work, not only forgets to give way to the pressure of alvine evacuation, but rather suppresses it if possible, even for hours; and now, in consequence of the violent expansion of the intestines and of the abdominal muscles, a relaxation takes place, which, in connection with the exhausted state of the abdominal nerves, must necessarily lead to the worst forms of constipation.

Very often obstinate *constipation follows closely upon severe illnesses,* especially such of the abdomen, as peritonitis, morbus Brightii, typhus, typhlitis and perityphlitis. I have treated a patient who, having never suffered before from constipation, retained it after a severe attack of small pox; the deceased Professor *Friedreich,* who committed the patient to my care, wrote to me on this occasion, that such a severe case of constipation after a feverous illness had never come under his notice. The cause of the disease may also be seated in *a disorder of the intestinal muscles themselves,* in insufficient nourishment, degeneration, atrophy and debility of functions, mostly the consequence of general cachexy. *Nothnagel* vindicates the existence of an independent primary atrophy of the muscular structure of the large intestine, "which, strangely enough, may attack even persons of a thoroughly robust muscular frame" (l. c. page 221). I have still to mention, that an occasional cause of constipation may be found in certain peculiarities of length and position of the large intestine.

The last subject of our consideration in this chapter is *the chronic intestinal catarrh. Leichtenstern* (l. c. page 507) looks for the cause of constipation chiefly in the small intestine, alledging that very compact concretions had been found in the lower parts of the small intestine of patients suffering from heart and liver diseases accompanied by chronic intestinal catarrh. To this, however, *Nothnagel* emphatically objects, that he had noticed diarrhœa in those cases in which, both intestines being affected, the affection of the small intestine was heavier than that of the large one. According to him "constipation is the principal and essential, the physiological condition (if this expression may be permitted) in simple chronic catarrhs of the large intestine." The truth lies perhaps in the middle. The change in the circulation and in the innervation of the large intestine, which is going along with chronic catarrh, can surely not be confined to the large intestine only, it will rather simultaneously trouble the function of the small intestine, even though anatomical changes of the mucous membrane of the small intestine should not appear. The mucous membrane of the large intestine in a state of chronic inflammation is swollen and hypertrophical, the intestinal muscle relaxed, its elasticity reduced. This relaxation of the muscles in consequence of disturbances in nutrition certainly contributes not a little to a reduction of the peristaltic action; bearing in mind the great importance of the nervous ganglia of the muscular layer of the intestine. I must maintain that bad nourishment also greatly reduces

the irritation exercised by these nervous organs. It is true that after such a pause of relaxation a state of stronger irritation may follow, which may reestablish the peristaltic motions and, if sufficiently strong, even cause alvine evacuation. Chronic catarrh of the large intestine is not always followed by constipation alone. Here I must again refer to *Nothnagel* (p. 141), according to whose statements the alvine evacuations in chronic *idiopathic* catarrh show the following relations:

1. The large intestine being affected by itself — the consequence is, mostly and as a physiological rule, constipation; only rarely evacuation takes place once a day.

2. The small intestine being affected by itself — also constipation follows.

3. The large and the small intestine being affected together at the same time — constant diarrhœa may exist.

4. In catarrh of the large intestine, the constipation may be interrupted by diarrhœa, either in regular periods of a few days, or in regular intervals.

Besides the primary chronic catarrh described above, a short notice is due to the venous engorgements in the intestine, which appear in the train of diseases of the heart, the lung, and the liver. The mucous membrane and muscles of the intestine are materially altered in these diseases, especially the muscle is serously saturated and swollen, and is not easy to excite. At the same time the excitability of the nervous ganglia, owing especially

to the insufficient supply of oxygen, is considerably reduced.

The so-called *"Abdominal Plethora"*, however, has not its sole foundation in a weakened action of the heart or lungs; a lessening of the general motions of the body will at once lessen the energy of the organic muscles of the digestive apparatus. *Johannes Müller* explains this as follows: "The more we neglect muscular movement, the easier a state of torpidity in the tractus intestinalis sets in, and everybody knows how beneficially muscular movements of the animal system act on the regularity of the movements of the intestinal canal and the regularity of the excretions."

The *hæmorrhoids* with their unpleasant consequences, which sometimes are only developed after constipation, very often on the contrary originate at the same time as the chronical catarrh of the large intestine, which precedes constipation. Their painfulness alone may oppose a mechanical obstacle to alvine evacuation.

II. Symptoms.

It is easily to be seen from the various causes of habitual constipation mentioned above, how numerous and changeable the symptoms of it must be. Owing to the reduction of the peristaltic action and the debilitation of the digestive functions, the food will remain in the intestines for a longer period, at the same time the stomach will not digest with its former energy, this

occasions a loathsome rising of the stomach, pyrosis, inclination to vomit; abnormal quantities of wind are developed, the belly is stretched like a drum, the patient is subject to borborygmus by day and by night and continually suffering from an unpleasant repleteness and painful pressure. Under these disorders of digestion the nutrition of the patient is sensibly reduced. He becomes thin and haggard, especially so after acute and long lasting hæmorrhage of the piles (the "abdominal habitus" of the older school of physicians is a term justly to be applied for this case): or, the patient may still exhibit a certain embonpoint, and even obesity, but his power of endurance and resistance is greatly impaired, his nerves and muscles are relaxed, and the cheerful and lively individual of former days needs strong impulses to rouse him to bodily and mental activity. More dreadful does this condition become, when the strange and numerous disturbances of more distant organs are added to the disorders of the bowels. These reflex phenomena issuing from the abdomen are of a *somatic* as well as of a *psychical character;* the poor patients complain of heaviness, dulness and head-aches, giddiness, buzzing in the ears, alterations of taste and smell, disturbances of visions, difficulty of breathing, tormenting palpitations of the heart, hyperæsthesia, anæsthesia all over the body, cold feet, and a feeling of general debility. This does not exhaust the number of tribulations, because in most cases a psychical alteration, hypochondria, is superadded (see page 17). I cannot draw here a minute picture of this

disease, which torments both the patient and the doctor with equal perseverance. Let any one of my readers who takes a special interest in this subject study the work of *Jolly (Ziemssen's Handbuch der spec. Pathologie u. Therapie XII. Bd., II. Hälfte),* who has treated of hypochondria as well as of hysteria in a masterly manner.

He is subject to "the thousand natural shocks that flesh is heir to"; whenever he hears people talk of any pain or illness, he at once feels the symptoms on his own person; he has gone through every imaginable disease, he listens anxiously to every tale of sickness; he is for ever keeping our pity awake: for even if the kind and well experienced doctor has succeeded, after no end of trouble, in alleviating his sufferings in one direction, directly afterwards a new danger seems to present itself to his imagination. The anxiety for *his own self* almost consumes the hypochondriac; I forbear to record the serious mental disorders to which he is exposed. The most careful attention is paid to the abdomen, to the tongue, to the tip of the nose, to the appearance of the gums, to the bloodvessels of the conjunctiva, to the arterial pulse and to the palpitation of the heart; the urine is measured, examined as to its specific weight, tested on reaction, albumen and sugar, and a diary is kept about this with a conscientious care which would be worthy of a better cause. The control of his stool absorbs most of his attention; "alvine evacuation becomes the main object of his life, all dejections are examined with the greatest care and with disgusting cynicism they

are made the favourite subject of his conversation". (*Jolly* l. c. p. 667.)

However dreadful all these sufferings may appear, they are not desperate, and just by applying my method of *combined treatment* the hypochondriac, in whose opinion no doctor on earth can do enough, is surrounded by so manifold care and attention, that he begins to feel quite elated at having at length met with a doctor "who thoroughly understands his case and who is now going to cure him". Every colleague will understand what I mean; the hypochondriac is not satisfied with psychical treatment only, he requires that the doctor should do something *visible* for him — and, if disappointed, is apt to fall into the snares of quacks and swindlers. But his wishes are reasonably accomplished by the *electric, hydropathic, and massage treatment,* which is particularly adapted for this purpose.

III. Therapeutics.

In speaking of the various remedies for habitual constipation I need not dwell on the purgatives which are generally used, since they have no other purpose than to rid the intestine quickly of its contents, being incapable of improving peristaltic motions. There is no doubt that in many cases aperients will be very useful in supporting and accelerating the external cure, nor must dietary prescriptions be disregarded.

The remedies for habitual constipation often applied by me with great success are the following:

Electricity, Massage including Gymnastics, and Watercure.

The effect of each of these remedies is:

Stimulation of the activity of the nerves and muscles of the intestine, more plentiful supply of digestive juices, removal of impediments in the circulation, strengthening of the abdominal pressure.

Though I have been successful in effecting improvements with every one of these remedies individually, I nevertheless generally applied them in a combined form; thus, for instance, I applied massage together with hydropathic treatment, whilst on other occasions I substituted electricity for the latter. Sometimes it is not easy to say from the beginning of the treatment, which of the remedies promises to be most efficacious. Massage and electricity may be applied at any time, whilst for the hydropathic treatment a case now and then must be excluded. The best results, however, are obtained if the three curative agents can be applied together.

1. Electricity.

On the success of electric treatment I can only speak in terms of highest praise. Indeed, the effect of this remedy can be nothing else but favourable in cases of constipation, which is essentially the result of a reduction of the peristaltic action of the intestine. By applying the electric current the most wonderful results have been attained in all diseases of the central nervous system,

and of the peripherous nerves and muscles, which are accompanied by paresis and paralysis. That the electric current should therefore act successfully in the paresis of the intestine, was to be expected *a priori,* and these expectations have been fully confirmed by experience.

The reaction of the organic muscles compared with that of the animal muscles offers a few deviations. A contraction effected in an organic muscle continues even after the irritation of the muscle has ceased. Moreover, the organic muscle does not move so rapidly, the contraction may take place after the electric irritation has been stopped. When the galvanic current is applied on the animal muscles, they are contracted only at the opening and closing of it, whilst the organic muscles will quiver even when the chain is closed.

It has also been observed, that the *faradic current* is better adapted for producing peristaltic motions than the *galvanic one.* Several practitioners proceed in the following way: either they apply *both* kinds of currents alternately in *one session,* or one current after another in separate successive sessions. On the recommendation of my learned teacher, Prof. Erb of Heidelberg, I have lately begun to use the galvanofaradisation according to *de Watteville (Mendel's neurolog. Centralblatt 1882 No. 12*). What *Erb* says concerning the electrisation of the stomach, of course applies also to the intestine. "The secondary spiral of the faradic apparatus is inserted in the circle of the galvanic current in such a manner, that the opening current runs in the same direction with the galvanic

current. This causes the stimulating force of the faradic current to act on all the places in which the modifying effect of the galvanic current prevails, and the combination of these two actions, viz. the action of the negative pole of the galvanic current which increases the irritability, combined with that of the faradic current which produces the irritation, promises particular results for cases of atony and weakness of the (stomach) muscles. This treatment, therefore, fully deserves to be examined in such cases; the method of application being exactly the same in any respect as that of the faradic or galvanic current taken separately." *(Erb's Handbuch der Electrotherapie, p. 662, III. Bd. von v. Ziemssen's Handb. der allgem. Therapie.)*

I cannot contribute much to the casuistry of electrisation of the intestine in cases of constipation, in spite of excellent materials for observation, because with my patients the treatment has nearly always been a combined one. However I very often had the opportunity to convince myself of the prompt and direct action of the current; sometimes, when the current was strong, the patients could not suppress the want of evacuation till they reached the water-closet, even in cases when the waters of the Elisabethbrunnen had been taken several hours before; with most others the evacuation took place after a relatively short time, whereas it was shown by exact experiments that, if electrisation had not been applied, the evacuation would never take place till several hours, sometimes even a day, after taking the waters.

I have noted a good many cases, when customers of the spring had a plentiful alvine evacuation after the first electric and massage session following directly the taking of the waters; which otherwise would only take place in the evening after the second visit to the well. The promptness of these effects will not be surprising to any one who has had occasion to witness the procedures of the massage and the following gymnastical exercices, and to observe the vigorous peristaltic motions which the electric current produces over the whole digestive tube.

I quote a few cases of the excellent effect of electricity, by which not only the *most obstinate obstruction,* but also *ileus* has been cured.

1. Observation by *Mario Giommi. (Di un caso di obstruzioni intestinale guarito coll' applic. della corr. indotta. H. Raccoglit. med. 1875. Novbr. 20.)*

Obstinate obstruction. Cure through faradisation. — A robust peasant, 51 years of age, was attacked on July 22nd, with pains in the bowels, which were followed by a few scanty alvine evacuations and subsequently by *intense constipation,* defying all remedies. On August 8th, admission to the hospital: serious disorder, *enormous meteorism,* size of the abdomen 39 inches, frequent rising of inodorous gases, difficulty in breathing, dry tongue etc. — Sonorous sound on percussion. An old scrotal hernia as cause of the disease could be safely excluded. Therefore *simple atony of the muscles of the intestines* was presumed, and the

appliance of electricity decided upon. Previously injections of water, colocynthidis pulpa, and nux vomica were tried, but in vain. *Faradic treatment:* one electrod in the rectum, the other on the abdominal wall above the colon transversum, strongest current. First session, 15 minutes: no result. Next morning, second session of 20 minutes: scanty evacuation of yellowish matters, condition of the patient rather worse; *in the evening after the third session two plentiful evacuations* with much wind, size of abdomen reduced to $33^1/_2$ inches. After the 4th session some more evacuations and then progressing improvement till cured. Discharged Septbr. 2. Size of abdomen $30^1/_2$ inches.

2. Observation by *J. Simon* (Ballouhey).[1])

Acute obstruction. — Colic and ileus. — Rapid cure through electricity. — A man, 44 years old, is suddenly attacked, on June 15th, with *vomiting* and *acute colic.* No fever. — Obstinate *constipation* sets in, pains increasing. By and by meteorism also. Clysters and purgatives of all kinds remain without effect. No hernia, no mechanical cause to be discovered. Increasing swelling of the abdomen, anxiety, absolute constipation; repeated vomiting; pulse frequent, threadlike, critical expression of the face. — These symptoms still increasing, on the evening of June 17th the appliance of electricity is decided upon

[1]) De l'électricité appliquée au trait de l'occlusion intestinale. Thèse. Paris 1880.

and made by Dr. *Onimus:* faradisation of the abdomen and intestines, alternating with unstable galvanic currents. 20 minutes. Directly afterwards vomiting ceases and two fluid evacuations take place. — A little improvement is noticed. — After three hours a second electric session: twelve evacuations result from it and abundant gases pass the rectum. No more vomiting, the oppression diminishes. — June 18th, continuation of fluid evacuation, sensibility of the abdomen decreased, no more nausea, no fever — direct turn to uninterrupted convalescence.

Similar observations have been communicated by *Benediet,*[1]) *Scarpari,*[2]) *Günther,*[3]) *Stein.*[4])

Also *Erb*, in his Manual of Electrotherapie page 667 and 668, has described four very interesting cases from his personal experience. Electricity has also been applied with striking success in *ectasies of the stomaeh*[5]),[6]) *in in-*

[1]) Ueber die electrische Behandlung der Obstipation. Wien, med. Ztg. 1870 No. 33.

[2]) L'elettr. nella coprostasi da atonia intest. Ann. univ. p. 97. Febr. 1881.

[3]) Correspondenzblatt für Schweizer Aerzte 1880.

[4]) Centralblatt für Nervenheilk. 1882, No. 9.

[5]) *Fürstner,* Berl. klin. Wochenschrift, 1876 No. 11.

[6]) *Kussmaul*, Archiv für Psychiatrie u. Nervenkrankheiten, Band VIII. 1878 S. 205, who undertakes the internal faradisation of the stomach.

vaginations of the intestines,[1]) *in irreducible hernias*[2]), in *atony and prolapsus ani.*[3])

The electric treatment of habitual constipation is the following:

1) Either the electrods are both placed on the abdominal walls, or the positive pole is standing on the under part of the spinal cord, the cathod on the abdomen; in both cases the cathod is either placed on different points (stable) or it is continuously carried to and fro on the abdomen (unstable); here it is advisable to impress the plates a little stronger on some places, as the cœcum and colon descendens, and at the same time to develop stronger contractions by means of interruptions or changes of the current. If it is necessary to irritate the abdominal walls in particular, a strong current is to be used, and the plates are to be put on as slightly as possible, as with strong pressure the current will run deeper without apparently irritating the abdominal muscles.

The electrods should be as large as possible; some practitioners use cathods of flexible metal of 20—28 square inches, which are easily fitted to the outlines of the abdomen; I have mostly made use of *Erb's* electrods

[1]) *Buequoy*, Journal de Thérapeutique, 1878, No. 4 u. 5.

[2]) *Korczynski, Virchow's* Jahresber. d. ges. Medicin 1880, S. 205.

[3]) *Duchenne-Erdmann,* Anwendung der Electricität S. 266.

for the spinal cord (4 inches long and 2 inches wide) to my entire satisfaction.

The duration of an electric session is generally from 3 to 10 minutes; I must confess, however, that I rarely found this period sufficient to obtain quick results; if the condition of the patient allowed to do so, I extended the time to 20 minutes and more, chiefly, it is true, in those cases where the other cures could not always be applied at the same time.

2) The position of the electrods is a *recto-abdominal one;* a button electrod (positive pole) is inserted about 2—4 inches into the rectum, whilst the cathod is applied on the abdomen in the manner described above. Sessions: 3—10 minutes. "Here it is advisable to change the direction of the current several times, in order to allow also that cathod which irritates more strongly to act from time to time on the rectum. Also in this instance the strength of the current is to be measured by the energetic contractions of the abdominal muscles." (Erb.) When applying the galvanic current, one must change it more frequently, in order to prevent caustic scurfs on the mucous membrane of the large intestine.

2. Massage.

Massage, which was frequently exercised in antiquity, was in modern times slow in gaining the general approbation of practitioners, though weighty voices vere continually pleading in its favour; it was chiefly in the hands of laymen and quacks, who did more harm than good

for its reputation. Only lately its use has become more universal, partly because its manifold salutary effects have been splendidly established by physiological experiments, partly because the number of reliable authors using it and incessantly reporting favourable results has grown more numerous.

Of the effect of the abdominal massage I will only state the following: firstly, *by reflex action* it stirs strongly up the peristaltic motions of the intestines; secondly, it works *mechanically,* through removing the contents of the intestines and more rapidly supplying the digestive juices; not to mention the numerous subordinate effects, which will be treated of further on.

In attempting here to give a description of the abdominal massage, I know very well the difficulty of representing the different manipulations so faithfully, that accordingly any reader should be able to practise it properly. Detailed descriptions do not even appear in every special treatise on massage, and those in existence vary in many points. It is not massage alone which is applied in habitual constipation, but other manipulations have to be added: *active movements, passive movements, and movements with resistance.* What is properly called massage consists in

1) *Rubbing* (or friction),
2) *Kneading,*
3) *Pressing,*
4) *Slapping,*
5) *Jerking.*

To some readers this description may perhaps appear somewhat too detailed, but I surely owe it to others taking a particular interest just in this department.

The patient is lying on a couch with his back on cushions or supporting himself on a high railing; the thighs are drawn up to the abdomen, in order to relax the abdominal walls, the feet are placed on the couch; with his hands the patient takes hold of the sides of the couch; articles of clothing, which might possibly prejudice proper respiration, are removed; the massage is applied to the naked belly. This is of particular importance, because the reflex-producing effect of the massage could not be developed at all on a covered body. *The massage of the abdomen is no easy manipulation: properly and dexterously executed, it is a technical art.*

Rubbing (or friction).

The doctor stands by the side of the patient, at first on the right, beginning with the left half of the belly, the hands are slightly placed one on the top of the other — whether the right or left hand is to be at the bottom is immaterial; I generally alternate — and now begins a rubbing, at first gentle, but growing eventually into a firm pressure from the left hypochondrium to the right, that is, from the region of the spleen to the liver, then going back in the same way; after this, a second rubbing is made, starting again from the left and going, as before, to the righthand side, only beginning about 2 inches lower down. (In delicate cases, f. i. after typhlitis

and perityphlitis, the patient very often cannot bear the rubbing with the hands *placed one above the other,* it must therefore be executed very slowly and gently and with *one hand only.)* After 30—40 rubbings the doctor stands on the lefthand side, executing them from right to left. With these rubbings it is advisable to begin right backwards, so as to reach almost the spine. The abdomen soon gets very warm, and even delicate patients will suffer the following procedures without the least inconvenience. In the same way as the rubbing, also the *kneading* and *slapping* are made on the S. romanum and the colon descendens from right to left (as described above). It is often enough recommended that the rubbing as well as the succeeding slapping should be executed by two gymnasts, however I can see no advantage in this. These two gymnasts as a rule work so, that the one places his hand on that of the other; but if I work alone with both my hands, I am very well able, through my sense of touch, or perhaps induced by the sensibility of the patient, to weaken or strengthen the pressure of the rubbing and kneading, which is absolutely impossible if two gymnasts work together at the same time.

Kneading.

The hands are placed in exactly the same way as before, the movements run in two different directions: a) from the lowest edge of the ribs to the pelvis; b) from one hypochondrium to the other (as above).

a) If for instance the left hand lies directly on the

abdominal wall, it is moved — the right hand being always on the top of it and with it — with soft pressure towards the ulnar side of it, then it is lifted up with the ulnar side towards the radial side, the palm of the hand and the radial side beginning a pressure; now the radial side is raised, and it is again the palm of the hand with the ulnar side which effects the pressure, and so on. After each single movement the hands are conveyed towards the edge of the pelvis. According to the abdominal size of the patients this procedure can be undertaken on each half of the abdomen three to five times from top to bottom, in the direction from the middle line towards the back.

b) The pressure with the hands is exercised from the fingertips towards the wrists, the abdominal wall and intestines being pressed from the tips towards the muscle under the thumb, and pushed back again by the latter towards the former. This manipulation is more efficacious than the first mentioned: I for my part scarcely ever exercise the two methods, as just described, separately, rather combining them in a form of positive kneading, which in some way reminds one of the kneading of a baker, of course without pushing the fingertips roughly in the belly, the pressure with the flat parts of the hands being always of greater value; the individual motion looks very like a roman S.

Pressing.

This is principally executed on thin patients only. It is directed towards the plexus cœliacus and hypogastricus;

the former is situated on the front wall of the aorta, underneath and in front of the hiatus aorticus on the interior sides of the diaphragm; it is reached by putting the 3 middle fingers exactly between the processus ensiformis and the navel towards the posterior abdominal wall, and then pressing the fingers gently against it. The plexus hypogastricus is situated in front of the last lumbar vertebra; the point from which it is reached, in the manner just described, is in the line between the navel and the symphysis ossium pubis. This practice of pressing the abdomen, which was formerly regarded as peculiarly important, has lately been resumed on the ground of analogous experiences made with shakings of the nerves in cases of bloody and unbloody tensions.

Slapping.

This means striking the abdomen with flat hands. It must be executed slightly and elastically, else it will be like chopping and be painful to the abdomen. Sometimes it may be necessary, in case of localized swelling, or greater resistance of some parts of the abdomen, to operate a little more thoroughly upon them than upon others; also it seems to me advisable, in order to establish a more equal distribution of the gases in the abdomen, to apply rubbings now and then. I cannot share the timidity of my special colleague *Dr. Reibmayr,* who, though very bold in every other branch of massage, warns against strong slappings, fearing that relaxation of the blood vessels and the intestinal muscles might set in,

analogically to the symptoms in *Goltz'* striking experiment; Even from the most abundant slappings, I have always had the very best results, and have never noticed any unpleasant symptoms.

Jerkings.

The doctor seizes with his right hand the left part, and with his left hand the right part of the loins from behind, lifts the patient a little distance up from the couch, and gives the abdomen a few good tossings or jerkings.

It is very easy to insert *various modifications* in the different forms of abdominal massage, but it would be exceedingly difficult, and even useless, to describe them all, because only the more experienced would understand and be able to practise them properly.

As I have mentioned before, massage is followed *by various motions,* which of course may partly also precede it, though it is advisable to make some of them *after the massage.* With regard to these motions I must refer to the pamphlets which I am going to quote, because otherwise I should be compelled to enter too minutely upon the so-called movements with resistance. I will only point out, that the rollings of the trunk as well as of the legs deserve greater attention, especially for the purpose in view; besides, the rolling of the trunk should not be executed so often in a standing posture, but rather in

sitting, because this greatly favours the effect, without fatiguing the patient.

Everybody following *Trousseau's* words exercises active stool promoting gymnastics. "The power of will", says this great physician, "set in motion with patience and perseverance, is able to triumph over constipation. Day by day the patient must go to stool at the very same hour, and even if it should last a pretty long time till a positive result is obtained, he must not desist; even if the want should arrive before the hour fixed, he must wait till then. If his efforts should prove fruitless even on the second day, a clyster of cold water must be taken immediately. By continuing this methodic and persistent proceeding with occasional clysters only for one week, the patient generally obtains normal alvine evacuation. Suppositories are also recommendable as auxiliaries in this pedagogic treatment."

Treatises on massage and gymnastics which have lately appeared in the German literature, partly containing pretty fair illustrations as guides, are: "Die Technik der Massage by Dr. *Albert Reibmayr*, Wien 1884," which at the same time contains a supplement on active movements in conjunction with massage.

This supplement — entitled "Activbewegungen" — has also been published separately, and I gladly recommend them to my massage patients.

The same author has also written another work well worth reading: "Die Massage u. ihre Verwerthung in den verschiedenen Disciplinen der practischen Medicin

von Dr. *A. Reibmayr*, Wien 1883." Further references see at the foot of the page.[1])

However excellent all these gymnastic exercises may be, I must strongly advise every patient to take open air exercise punctually and regularly. Unfortunately just those persons are mostly afflicted with constipation who, a long time before they begin to suffer, are wont after a dainty meal to indulge in a comfortable

[1]) *Joseph Schreiber*, Pract. Anleitung zur Behandlung durch Massage und methodische Muskelübung, Wien u. Leipzig 1883.

M. Eulenburg, Die Heilung der chronischen Unterleibsbeschwerden durch schwedische Heilgymnastik, auf Wissenschaft u. Erfahrung gegründet, Berlin 1856, a most excellent work of this distinguished author.

P. Haufe, Massage, ihr Wesen und ihre therapeutische Bedeutung, Frankfurt 1881.

Larger works containing, in addition to other subjects, the treatment by massage and gymnastics are the following:

Rossbach, Lehrbuch der physikalischen Heilmethoden, Berlin 1882.

Busch, Allgemeine Orthopaedie, Gymnastik u. Massage, II. Band, II. Theil von v. Ziemssen's Handb. der allgem. Therapie.

Dr. *Schreber*, Aerztliche Zimmergymnastik, Leipzig 1877, as well as: Kinesiatrik oder gymnastische Heilmethode Leipzig 1852.

little nap, who anxiously avoid any draught of air, and who, wishing to spend their leisure "agreeably", will commit heavy excesses in Baccho et Venere.

The physician who succeeds in shaking this class of patients up from their intoxication, converting them to a reasonable hygienic and dietetic way of living, has already half fulfilled his mission.

Riding on horseback, driving, hunting, and rowing, especially mountain climbing cannot be too highly recommended to persons suffering from chronic constipation. A daily sojourn of a few hours in the fresh air causes in itself a considerable improvement, the hypochondriac is aroused from his mute broodings, and a lively company will do more for him than a medicine chest carefully fitted up with all its allœopathic and homœopathic contents.

And now let me tell the *patient afflicted with heart-disease,* who is so fond of sheltering under the plea of his affliction a laziness bordering on sloth, that it is now physiologically established, that bodily exercises, and in many cases just the climbing of mountains, are the best means to rouse the weakened action of the heart. Professor *Oertel* in Munich, in his Manual of General Therapeutics of Disturbances of the Circulation (IV. Band in v. Ziemssen's Handbuch der allgem. Therapie), has made some interesting communications on this subject, and it is only desirable that physicians should give the necessary attention to his advice.

I can fully confirm some of *Oertel's* observations. When Friedreich was alive, I had every season patients

of heart diseases from his practice sent to me for a gymnastic cure; in a short time they were able to take longer walks in the near Hardt forest without difficulties; they felt cheerful and vigorous, and some of them even made excursions to the more distant Taunus mountains, climbing bravely upwards, and being able to exert themselves more and more every day. The progress with some patients was so evident, that after a few weeks' sojourn in this place I sent them back to Friedreich to be re-examined, who was also delighted with the excellent results.

I will not conclude this chapter on abdominal massage without touching in a few words on some other affections, against which it has also proved very beneficial and salutary. This I am the more justified in doing, as many of those symptoms are found associated with habitual constipation.

Chronic catarrh of the stomach,[1]) *ectasis of the stomach*[2]) and *spasm of the stomach, ileus,*[3]) are naturally very suitable objects for massage treatment, also *nervous dyspepsia,*

[1]) *Douglas Graham,* New-York, Med. Record 1876 p. 259.

[2]) *Nothnagel,* Wiener allgem. med. Zeitung 1883 p. 48.

[3]) *Buch,* Berl. Klin. Wochenschrift 1880 No. 41, *Kroenlein,* Correspondenzbl. für Schweizer Aerzte 1882 No. 15 u. 16, *Bitterlein,* L'Union 1882 pag. 584, *Scerbsky,* Petersburger med. Wochenschrift 1878 No. 12.

which may perhaps be considered as resulting from an irritation of all the abdominal nerves; also to a great extent *the residua of typhlitis and perityphlitis,* which were formerly looked upon as a "Noli me tangere" of therapeutics; *flatulency and meteorism* often give way very quickly after a thorough abdominal massage. I have noticed especially, that the local and general state of the health of *hysteric paticnts* was at once improved from the moment when those secondary disturbances were removed. *Uterus affections,* in particular *chronic peri- and parametritis*[1]), are equally objects of massage treatment, also *disorders of liver-hyperæmia, icterus (Busch,* l. c. p. 254) and *chronic liver-hyperæmias with enlargement.*[2])

I will mention here what I observed a long time ago in the gymnastic treatment of *Emphysema and Asthma,* namely that in a great many cases, when patients complained about pressure and tension in the abdomen, without actually suffering from constipation, abdominal massage proved an integral element of gymnastics of the lungs; I have often witnessed too, that it may work excellently in inveterate cases of *bronchial catarrh;* the distinguished physician for throat-, larynx- and lung-diseases, Dr. M. Schmidt of Frankfurt is of the same opinion, having become acquainted with a number of favourable results.

[1]) On this subject, compare, *Asp,* Nord. med. Archiv, Band X., 1879 No. 22.

[2]) *Durand-Fardel,* Bullet. général de thérap. 1881 30. Mai.

3. Hydropathic Treatment.

Of the numerous hydropathic procedures we shall consider the following in particular:

the rubbing bath and the shower bath (douche),
the sitting bath, and the cold clyster, as well as
the wet compresses over the abdomen (Neptune's belt).

In the rubbing bath a sheet soaked in water and wrung out a little is put round the body, the top ends are slightly tied together round the neck, the body is thoroughly rubbed, till the patient feels a general sensation of comfort, till the first symptoms of reaction begin to show. This sudden covering of the whole body in a cold wet sheet exercises a strong irritation on the sensible nerves of the skin, the bloodvessels of which are contracted, the inspiration and expiration are accelerated, the pulse slackened. The *direct effects* of the rubbing bath are: changed distribution of the blood, increase of the blood in the skin, discharge of blood from the internal organs, mechanical furtherance of circulation; the rubbing bath, therefore, in connexion with the strong nerve irritation, is a *tonic procedure.*

Consequently, where discharges of congestions, hyperæmias and stases in the internal organs are intended, the rubbing is advisable; its influence on catarrhs of the stomach and the intestines, on hyperæmias of the parenchymatous abdominal organs, is always a very beneficial one. — As to the temperature of the water, I may add, that I do not care to follow the practice of many other

hydropathic establishments, viz. to start at the beginning with low temperatures acting very energetically, no matter whether the patient undergoes the treatment for the first time or repeatedly; with nervous patients, or with those who are not yet used to water treatment, I have very frequently started in summer at 88—90° F. and gradually reduced the temperature by 34° F. daily to about 70° F.; after that only by 34° F. every two days, and finally as low as the patient could bear without harm, being always guided in this respect by individual observations. Through this cautious method of training and seasoning I have earned the gratitude of a good many patients.

A similar effect to the rubbing bath is produced by the *shower bath*. Besides the shower directed on the whole body, I always apply with it, in cases of habitual constipation, the movable horizontal shower or the movable fan shower directly on the abdomen. Its effect is apparent. In many cases, especially with thin patients, the peristaltic motions of the bowels pelted by the strong mechanic and thermal irritation of the water may distinctly be seen going on underneath the expanding and again contracting parts of the abdominal covers. As a rule the patient feels great relief after a few days already. It is obvious that the showers — like the general rubbing bath, only in a higher degree — influence the circulation and the distribution of the blood. that besides through the stronger nerve-irritation *the muscular coat of the intestines is thrown into tonic contractions.* It is clear, therefore, that by using the showers on the

abdomen methodically and for a longer period, a return of the intestinal peristaltic action must be often obtained.

Of the *sitting baths* only the *short cold sitting bath* is of importance here. The effects of the sitting bath differ extremely according to its duration and its temperature. The short cold sitting bath, lasting 10 minutes at about 54° F., effects locally a reduction of temperature, which, however, is followed $^1/_4$—$^1/_2$ hour later by a reactive rising temperature. Accordingly its use is indicated, when we wish, in the first place, to accelerate the circulation in the branches of the port vein, and in the second place, to supply blood to the organs of the pelvic cavity; it is therefore very well appropriate for cases of decided koprostasis, of the relaxation of the lower end of the colon and the rectum, for the purpose of stimulating the innervation, the relaxed muscular coat of the bowels, the flagging functions; for the same reason, the short cold sitting bath will operate very beneficially in paresis and paralysis of the muscular structure of the bladder, in impotence and spermatorrhœa, leucorrhœa (the whites), amenorrhœa, and menostasis. More directly and doubly beneficial is the action of the *clyster,* when applied methodically.

The latter was already known to Hippocrates and Celsus, it was much used in France, and in the time of Louis XIV. praised as "le grand remède"; its use was at times highly exaggerated. The apparatus' for its application are simple ones. They are either syringes, forcing-pumps, or irrigation-apparatus'; also *Hegar's funnel*

has proved very useful. In the application of the clyster the posture of the patient is to be well considered; the *side position*, or, better still, the *knee-elbow position* allows most copious injections.

Just as the unsystematic or exaggerated application of many excellent remedies has thrown them into discredit, the same happened and still happens up to this day with regard to clysters. Injections applied too frequently or without necessity gradually wean a man from the habit of bringing his abdominal pressure to bear on the defecation; we must therefore strongly advise our patients not to use it too frequently, and only in alternation with other remedies.

In habitual constipation it is best to evacuate the lowest part of the intestine through a medium quantity of water of 78—68° F., or, if a great many compact masses are to be solved, through water of a higher temperature; afterwards a larger quantity of water (1 or 2 pints) of 86—77° F. is allowed to enter slowly, and the patient is requested to retain it as long as possible. Gradually water of a temperature down to 60° F. is used. I have been able on many occasions to notice the success of this clyster applied methodically, at first daily and afterwards every two days. By the experiments of *Röhrig*[1]) on the way in which circulation of the bile and the portal vein are affected by water injections into the

[1]) Experim. Unters. über d. Physiol. der Gallenabs., Wiener med. Jahrb. 1873.

rectum, such results are easily accounted for. Another important item in this cure is the share of *coldness* in increasing the energy of the intestinal peristaltic motions. I have booked several observations, where I attained the desired effect — the irritation of the peristaltic motions — with water of 50—54° F.; very frequently even, besides the first evacuation caused through the clyster, another took place spontaneously 8—10 hours afterwards, by which the patients felt greatly relieved.

The Wet Compress (Neptune's belt)

is an important appliance for various conditions of the abdominal organs. It is used in the following simple manner: a linen cloth, for instance a towel about 16—14 inches in breadth and of such length that it can be wound twice or three times round the body, is dipped into water for about $^1/_3$ of its length and then wrung out; afterwards the whole cloth, commencing at the dry end, is rolled and put on; the wet upper part is placed on the abdomen, and the dry part of the compress finally on the wet part; the compress may be tied with strings; it is covered with a layer of india rubber paper or oiled silk overreaching it about 4 inches all round; the whole of this local wrapper is finally encased in a manifold layer of flannel or other woollen bandages.

The intermediate layer of india rubber paper or oiled silk is indispensable for the purpose in view, because it prevents evaporation, which plays an important part here. The Neptune's belt has been simplified lately through

the introduction of *spongopiline;* unfortunately the price of spongopiline in good qualities is still rather high. A large piece of spongopiline covering the abdomen in cross direction over the axillary line is lined on its exterior side, which generally is not quite impermeable, with impermeable stuff overreaching it several inches all round, and over that a piece of flannel is fastened, which passing across the back is tied in front with both its ends; as far as my experience goes, the piece of flannel alone is insufficient, and I always have had a second covering with a bad conductor of heat put on. I can recommend these spongopiline bandages very highly, but the spongopiline tablets must not be too small, and they must be of prime quality. The cheapest bandage is indeed the most expensive, because the more common sorts of spongopiline are of such inferior quality that they must be thrown away after having been used a few times.

The temperature of the water should in this instance also (as explained above) not be too low from the beginning, one should start at 82—80° F., and go down cautiously to lower degrees of temperature.

The physiological effect of the wet abdominal compresses is easily understood; the irritation of the sensible nerves of the skin — which is pretty strong, because always heated portions are touched — is soon followed by a reaction, the skin soon growing warm and, owing to the bad conductors of heat, as hot as the blood; later on a watery vapour is formed, which however has no exit, so that the compress is kept wet. The skin receives a more abundant

supply of blood, the abdominal organs are discharged and, owing to the accelerated circulation, perfused by a more rapid blood supply; which of course must work excellently on the nutritious functions. This method is therefore also indicated in catarrhs of the stomach, hyperæmias of the liver, hyperæmias and stases of the abdominal organs, specially in hæmorrhoidal diseases.

For various reasons I allow the wet compresses *only to be worn at night;* about half an hour before rising the compress is removed, and the abdomen as well as the back carefully dried. In cool season it is advisable for patients wearing the Neptune's belt at night, to wear a dry compress in the day time, to avoid catching cold.

Here I may mention a pamphlet by Dr. *Pelizaeus* of Elgersburg, which forms a very interesting addition to the literature of water treatment in chronic constipation (Deutsche Medic. Zeitung 1884 No. 71).

IV. Conclusion.

In summing up the effects produced by the three remedies for chronic constipation of which I have treated, namely: *removal of disturbances of circulation in the abdomen, stimulation of the action of the nerves and muscles of the intestines, more abundant supply of digestive juices, and strengthening of the abdominal pressure* — I have given all the possible indications for the treatment of constipation in general. These remedies, besides, have the eminent advantage that — unlike simple purgatives — they do not

gradually increase the disorder of the peristaltic action of the intestine, thereby forcing the patient to take progressively larger doses; and, on the other hand, far from weakening the organism in general, they rather tend directly to invigorate the muscular and nervous system.

In the following lines no minute description of diseases is attempted. The reader will have already found that the patients seldom come under treatment with constipation only; mostly their condition is highly complicated; not to speak of the unpleasant addition of hypochondria, there are numerous nervous abdominal disorders of another kind, chlorosis etc., and also external disadvantages connected with it.

I must not leave unmentioned, that the greater part of my patients take the water of the Elisabeth-brunnen. Early in the morning, before taking the walk to the spring, most of them get their rubbing bath or douche — sitting baths, as a rule, only in the course of the day — and after the spring they reappear for massage and electric treatment. By this practice *the mechanical effect* of the treatment *is sensibly increased:* by means of massage the taken quantity of water is sent very quickly through the intestines and therefore causes evacuation much sooner, the tension of the abdomen with unequal distribution of gas, which often enough follows the taking of the water, is quickly removed. In particularly obstinate cases the patient walks again to the spring in the afternoon at 5 o'clock, and then comes back for treatment (second douche, or first sitting bath.

or massage and electricity). When I notice an improvement taking place after the treatment, I allow the taking of the waters in the afternoon to be discontinued, I also reduce the Elisabeth water in the morning as soon as possible, prescribing in its place with preference the *Ludwig's water, which is excellent for stomachic and intestinal digestion.* Besides an aperient well, a chalybeate well is indicated for some patients; both our chalybeate wells (Stahlbrunnen and Luisenbrunnen) are preferable for weakened patients suffering from constipation, because their ferruginous components do not act constipating, but rather, through their chlorides, as a slight aperient. In the case of those patients with whom the external combined method of treatment *alone* proves so very efficacious I do not attach great importance to the taking of the waters; many patients have taken the strongest waters even for years without improving their constipation; as a rule it is only slighter cases of recent standing, and which are generally derived from catarrhs of the stomach and the intestines, that are cured through taking the waters alone, when the beginnings of the catarrh are submitted to the cure. I know also of cases where taking the waters was necessarily excluded and a cure was effected notwithstanding.

The so-called *inveterate cases* are generally the most interesting, in which generally, during their permanence, other unfavourable circumstances have been almost incessantly at work. In this respect I have *two very interesting observations* to report. In one case the constipation

was of 22 years' standing, the patient, an official, was not always tied to his office, temporarily he had even plenty of bodily exercise in the open air, which, however, had no longer any favourable influence on his condition. He was 38 years of age, and had always to use the very strongest purgatives; in addition to these, clysters had nearly always to be applied; the patient had grown extremely thin, his appearance was really terrifying. Before consulting me, he had taken douches at my establishment for a few days previous and felt very much refreshed after them. In consideration of the obstinate nature of the disorder and the short leave of the patient (5 weeks), he took 2 douches daily — especially strong on the abdomen — and was electrified and rubbed twice a day. The result was an excellent one, the patient soon enjoyed a better appetite, better digestion, became more cheerful, the stool was regulated at the end of the cure, soon after the bodily weight began to increase, the stool had remained normal, no relapse has became known.

Similar were the conditions of another, 35 years old, whose disorder was of 16 years' standing: also in this case the result was *restoration of health.* Besides these two cases, I quote another, concerning *a girl 3 years old,* which otherwise *looked healthy and blooming;* she never had spontaneous alvine evacuation, took frequently strong internal remedies and besides had always to submit to clysters: the poor child was finally pleased with all these procedures. When she was committed to my treatment on account of a slight atrophy of the left leg, the con-

sequence of a slight coxitis sinistra, her mother accidentally told me of the condition of her abdomen, she said that, to her great affliction, no other advice had been given her by the faculty but to continue the clysters. When the little patient had been electrified on her leg for a few days, she quietly submitted to the electrisation of her abdomen. Soon I could proceed to stronger currents; the treatment was applied once every day for 10 minutes; I instructed the mother to rub and knead the abdomen slightly several times during the day. After a fortnight — during which time the child still received the clysters — she had for the first time since her birth spontaneous stool without previous aid of a clyster. This evacuation, in spite of strong pressure and loud noises in the belly, did not pass off completely, which showed that the child had never learnt to use her abdominal pressure. The mother taught the child very reasonably how she should use it, and had the great satisfaction that, after 25 electric sessions, she had alvine evacuation every day regularly, without the aid of clysters or internal medicines; however, the abdominal pressure was not yet strong enough and the little patient had to exert herself very much. The child came 13 times more for the treatment of her leg — altogether, therefore, 38 sessions, and I always electrified the abdomen at the same time; *the success is a complete one.*

In less severe cases the success is nearly always certain; nevertheless a good many patients will reappear for treatment in the following season, because, being buoyed up by the success of their cure, they generally

neglect the good advices given them at their departure; or rather, they follow them in the first time only, then, after everything has gone fairly well for a while, they begin to relax, and at length grow quite heedless. Again the pills are resorted to as the "only true friends", and as soon as the patient has once taken them he cannot do without them, looking comfortably forward to his next season in one of the watering places. Fortunately, besides patients of this description there are a great many others with greater strength of will.

I must confess that not always a single cure in the season has given a thorough relief — especially for the reason that in difficult cases the conventional 4 weeks will not suffice — but with many who live on in a reasonable manner the relapse will be very slight; and a slight course of the waters in addition to a very slight water treatment will bring a definite restoration in the following summer, even without massage or electricity. According to my experience the *prognosis* is less favourable in face of habitual insobriety, chlorosis, and with women in the time of menopause. It is true, however, that I treated a difficult case of morphinism offering a bad prognosis with favourable result.

In treating constipated hysteric women one should be very severe and very cautious. There are some of them who actually have alvine evacuation only once every 8 — 10 — 12 days: though this is rather exceptional and temporary; very often they tell us that the treatment did not bring them any relief at all, that one should

proceed more energetically and with ever new remedies, but in most cases it will not be difficult to unmask — the fraud. The palpation of the abdomen will generally throw light on this subject, a steady and incontrovertible observation of the patient, however, must necessarily end in establishing the truth. There are patients who have evacuation once or twice daily, or at least once every two days — and with the quantities of water which I prescribe for internal use it cannot well be otherwise — who nevertheless will go and tell people with great ingenuousness, that the cure has as yet been of no avail!

Two cases are still worth mentioning, in which, probably *owing to enormous fat deposits in the abdominal walls,* constipation set in through the weakening of the muscles of the abdomen; the one patient, an advocate, 32 years of age, had a fully developed paunch, such as only corpulent women have after numerous confinements; sitting down had become almost an impossibility to him from want of breath; also when standing he was short-breathed; the weight of the paunch hanging downwards was pressing the lowest parts of the ribs together, so that the abdominal pressure did not work in the expiration. After 20 days' treatment — in addition to a moderate course of the waters — the fat disappeared, the abdominal pressure was working considerably better, but as the abdominal muscles were still partly left in a state of relaxation, I ordered the patient to wear a "ceinture hypogastrique" (belt), which was of great benefit to him.

The other case concerned an officer of high rank, 62 years of age, who wished to take vapour baths at my establishment in order to remove his enormous masses of fat, which were very annoying to him in walking and almost prevented him from putting on his uniform. I was compelled to refuse him the vapour baths considering his great nervous depression, advising him to take a douche every morning before going to the springs, and after it to appear for massage of the abdomen. The latter had the *special effect of removing the masses of fat so rapidly and thoroughly*, that the patient took a forced walk on the 9th day, and repeated it thenceforth every day with great pleasure. The whole treatment lasted 22 days, and in the last week the patient would now and then, for the amusement of some friends, undertake a race with a well-known American pedestrian who — by chance also a patient of mine — was never tired of praising the officer's agility.

Having now exhausted my subject, I feel tempted to conclude, by letting a well-known philosopher speak concerning the symptoms of the disease: "How many mental sufferings and mental torments proceed from abdominal disorders," exclaims Ludwig Feuerbach.[1]) "How

[1]) "Gottheit, Freiheit und Unsterblichkeit vom Standpunkte der Anthropologie."

many actions" — he continues — "which we ascribe to wickedness, to dolus, and of which really these are the nearest causes, have their origin in one sin only, which we have committed by neglecting to think of the relation between physical and moral conditions, or from ignorance of the laws or mere peculiarities of our organism, an ignorance against which, alas! the efforts of the individual or of mankind in general prove often powerless."

Printed by Charles Ritter at Wiesbaden.

Published by J. F. BERGMANN, WIESBADEN, and to be had of all booksellers, in LONDON of TRÜBNER & CO., 57, 59 Ludgate Hill:

AN ELEMENTARY
GERMAN GRAMMAR
AND
READING BOOK.

BY

FERDINAND SCHMIDT, PH. DR.

Elegantly bound. Price: 3 *s.*

PREFACE. The author thinks that a language should not be learnt from a series of isolated sentences such as are found in the exercises of most grammars; for in these sentences the language does not appear in its living form, and the words employed are only retained with difficulty as in their disconnected shape they do not support one another.

In the author's opinion the method of learning a language from books must resemble the way in which we learn it in life; he has therefore collected short stories and added the necessary words, and grammatical observations by which the pupil is told what to look for in the grammar, and what exercise here is to do. This system, which the author has tried in the course of a long experience, has proved much more agreeable, and at the same time much shorter than the old one.

Published by J. F. BERGMANN, WIESBADEN, and to be had of all booksellers, in LONDON of TRÜBNER & CO., 57, 59 Ludgate Hill:

Technological Dictionary

Of the Terms employed in the *Arts and Sciences; Architecture, Civil, Military, and Naval; Civil Engineering, including Bridge Building, Road and Railway Making; Mechanics, Machine and Engine Making; Ship Building and Navigation; Metallurgy, Mining and Smelting; Artillery; Mathematics; Physics, Chemistry; Mineralogy, etc.*

Edited by

E. Althaus, L. Bach. F. C. Glaser, J. Hartmann, E. Heusinger von Waldegg E. Hoyer, F. Kreusser, G. Leonhard, F. E. Mathiesen. O. Mothes, G. A. v. Oppermann, C. Rumpf, F. Sandberger, B. Schoenfelder, A. Schück, G. Ph. Thaulow, W. Unverzagt, H. Wedding, and

published by

ERICH SCHILLER,

with a preface by

KARL KARMARSCH.

Third Edition, completely Revised and Corrected; Roy 8vo.

Vol. I.	English-German-French. 761 pp.	Price 12 *s.*	
Vol. II.	German-English-French. 743 pp.	Price 12 *s.*	
Vol. III.	French-German-English. 611 pp.	Price 12 *s.*	

To the technical man, to the manufacturer, and to the merchant, the work will become indispensable in his private study of foreign literature; in his correspondence on scientific or commercial subjects with foreign countries he will find it a safe and sure guide, the names of the editor and contributors sufficiently guarantee its fidelity and accuracy, and will enable him to avoid the numerous errors into which he might fall through the different significations of the same words when used in their various technical applications.

Published by J. F. BERGMANN, WIESBADEN, and to be had of all booksellers, in LONDON of TRÜBNER & CO., 57, 59 Ludgate Hill:

Corpulence

and its

Treatment

on

Physiological Principles

by

Dr. **Wilhelm Ebstein,**

Professor of Medicine and Director of the Clinical Hospital at Göttingen.

Translated from the sixth german Edition

by

Prof. **A. H. Keane,** B. A.

University College, London.

Opinions of the Press.

The author of this book is one of the most eminent clinical physicians of Germany. It is therefore easy to understand that his publication has aroused the greatest interest among physicians and the educated classes.

The book, the contents of which fully justify that interest, *is one of the best works lately published, if a great many new points of view, important and unprejudiced observations, and clear logical conclusions, combined with an attractive style, may lay claim to that praise.* The author regulates the nutriment of the corpulent on the same principles which modern physiology has adopted for the non-corpulent, and on these principles he sketches a *rational diet.*

„Wiener Medicinische Blätter."

In the wide circle of the corpulent no little sensation has lately been caused by a pamphlet of Prof. *Ebstein* of Göttingen entitled *"Corpulence and its treatment on physiological principles"*. For all measures of absteniousness and selfdenial, which those who were suffering from undue weight of body hitherto usually underwent with Spartan fortitude, are pronounced superfluous and even useless by this celebrated pathologist. He has been the first to attempt to substitute for the so-called Banting- or fat-diminishing-cures something better and more suited to the natural conditions. The fourth edition of this little book has just appeared, and such a result proves how great a service the author has done to the victims of the Banting-cure by means of his novel dietetic instructions. Prof. *Ebstein* makes the very just remark that the corpulent patient has to pass through three phases. First, he is envied and admired for the stoutness and roundness of his form, its pleasant embonpoint, and exuberant health. In the second phase he becomes a somewhat ridiculous individual, his heavy gait and his ever increasing dulness of features exciting the derision of those especially, who happen to be of a spare habit! But he returns gibe for gibe, and laughs in his sleeve at the scoffers. In the third phase he no longer laughs. The broken health which accompanies excessive corpulence renders him an object worthy of the compassion which he receives. The criticism of the old fat-diminishing cures given by Prof. *Ebstein* has thus a painful interest for many people. May they be directed anew *to this little book, which is distinguished at once by the grace and vivacity of its style.*

„Berliner Tagblatt."

The author treats in his book a question of uncommon importance. *For it has not only a medical but also a social interest.* The manner in which he treats the subject is equally interesting and intelligible for physicians and all others. As it is often

as difficult to avoid diseases as to remedy them, the book is not only written for the corpulent but for all those that run the risk of incurring the same evil by not living in the right manner.

Whilst hitherto many unreasonable cures have been proposed — the famous Banting-cure included — the author shows by physiological arguments on what principles man should be nourished and the corpulent ought to diet themselves. It is his special merit that he maintains the important part which fat — nearly everywhere abhorred — performs in the economy of the animal body. *There are no experiments or hypotheses in this book.* But the author everywhere insists on *rational treatment* and puts in practice his physiological experience.

That the first edition of the book has been closely followed by a second proves best how successfully the author has treated the subject, and with what interest the principles of nourishment recommended by him have been everywhere adopted.

Prof. Eichhorst (Zürich) in the scientific Review *"Humboldt"*.